IN THE SPECIFICATION:

Please replace the abstract with the following new abstract:

--A method for verifying the design of a disk controller circuit to be incorporated into a targeted hard disk drive system having a read/write channel and a head actuator may include steps of emulating reading and writing of data in the read/write channel based upon a model of the read/write channel, emulating a behavior of the head actuator during track seek and track following operations based upon an electromechanical model of the head actuator, providing a disk controller design base for defining integrated circuit elements comprising the disk controller circuit and providing a controller environment to support execution and debug of firmware for operating the disk controller circuit. A plurality of disk functions may be carried out at a time-scaled rate according to a script. The plurality of disk functions includes interaction of at least the read/write model, the electromechanical model, the disk controller design base and the controller environment.--

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